Since the days of Thomas Chippen-dale, woodworkers have enjoyed a love affair with mahogany. Sadly, over the course of two centuries, genuine mahogany (*Swietnia macrophylla*) has been listed as an endangered species. As a result, this Cadillac of cabinet woods has become extremely difficult to find and prohibitively expensive. In response, lumber dealers have relabeled several sustainable substitute species as “mahogany.” Of the bunch, sapele—pronounced sah-PELL-ay—(*Entandrophragma cylindricum*) stands out from the rest.

Although a member of a different species, sapele (a.k.a. sapelli or sapeli) has a similar reddish-orange color as mahogany. When quartersawn, sapele boards exhibit a uniform ribbon pattern that shimmers in the light. In flatsawn boards, this squirrelly grain makes for wild swirls and surfaces that shift color depending on how the light strikes. This beautiful pattern occurs because sapele's grain is “rowed” or interlocked, which can make planing and shaping tricky. Despite some challenges, sapele's color and lively grain make this wood worth the effort it takes to tame. Read on to learn how to select the best boards and make the most of them.

Where the wood comes from
Sapele comes from a large tree in tropical Africa that is commonly referred to as aboudikro. Its range includes Sierra Leone, Angola, Congo, and Uganda. Aboudikro is a deciduous tree that commonly reaches a height of 130 feet. At this time, sapele is not on the endangered species list, though many of the countries where it grows have established protected populations and restrictions on lumbering. The IUCN (International Union for Conservation of Nature) lists the species as “vulnerable” due to a decline in its natural range and exploitation.

History in woodworking
Until recently, sapele was used mainly for veneer in decorative plywoods—its uniform ribbon stripes create a beautiful and predictable pattern that's prized by designers. General Motors uses sapele for the interior trim in Cadil-lacs. Luthiers use it to make guitars and ukeleles. High-end carpenters rely on sapele as a mahogany substitute for floors, staircases, and trim work. Highly figured boards are often reserved by furnituremakers for door panels and tabletops.

How to select the best stock
Good sapele is easy to find. It is commonly available in 4/4 stock, and because the lumber is harvested from large trees, you can often find wide planks (48” and wider) and in thicknesses up to 16/4. Prices for typical stock (4/4 or 5/4, up to about 8” wide) range from $6-$8 per board foot; about 50% less than African mahogany. Of course, you’ll pay at least twice that for highly figured stock and/or wider pieces. Most trees are quartersawn to showcase sapele's distinctive ribbon figure, where each stripe seems to change from dark to light as you walk around a finished project.

**Sapele Quick Take**

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DENSITY</td>
<td>40 lbs./ft³</td>
</tr>
<tr>
<td>HARDNESS</td>
<td>Hard</td>
</tr>
<tr>
<td>STABILITY</td>
<td>Moderate</td>
</tr>
<tr>
<td>ROT/INSECT RESISTANCE</td>
<td>Heartwood: Moderate-high Sapwood: Low</td>
</tr>
<tr>
<td>TEXTURE</td>
<td>Medium</td>
</tr>
<tr>
<td>TOXICITY</td>
<td>Moderate</td>
</tr>
<tr>
<td>USES</td>
<td>Furniture, boxes, turnings, musical instruments, staircases</td>
</tr>
</tbody>
</table>

Wood Sample Photos: Ralph Lee Anderson; Chair Photo: Larry Hamel-Lambert
Sapele is a beautiful hardwood in its own right, but is generally lighter than true mahogany, (see “Mahogany’s Mimic,” below) and has more color variation. While you're likely to find many rich, reddish-orange brown boards, there can be quite a bit of difference from one to the next. Boards ranging from tan to a deep burgundy are common. Bring your block plane when buying roughsawn stock, and ask if you can plane a small area to see what the color actually looks like.

Working sapele in the shop
Although sapele resembles mahogany, you’ll find that jointing, planing, and routing can be more difficult because of its rowed grain. With most woods, if a board suffers tearout when you run it one way, running it the opposite direction usually solves the problem. Not so with sapele. Freshly sharpened jointer and planer knives and light passes can help. However, because of the interlocked grain, accept that you’ll have some tearout no matter which way you cut. Just settle on the direction that minimizes the damage. When edge jointing boards, you may find that you get better results from the table saw than from your jointer.

As for hand tools, you’re likely to find that scrapers work better than hand planes. When carving, say, a ball-and-claw foot for a Chippendale chair, invest time keeping your chisels extra sharp. And pay close attention to what the grain is doing.

Sapele scrapes and sands easily, but note that sanding and machining produce a fine dust that will stick to everything. While severe allergic reactions are rare, sapele is still considered a skin and respiratory irritant. To minimize the chance of an adverse reaction, try to collect dust at its source, wear a dust mask, and plan on spending extra time vacuuming the shop at the end of the build.

Finishing
Sapele tends to darken as it ages, so its natural color may suffice, but if you look to hasten the process, you’ll find that the wood stains well. The interlocking grain and its resulting shimmer and color-shifting qualities won’t be obscured by anything other than the darkest stains. There's no definitive best finish for sapele. As with many attractive exotics, less is more. Simply sand up to 220 grit, and apply your favorite topcoat.

Note that sapele is a diffuse porous wood with relatively large pores. To replicate the mirrored finish typical of period furniture, you should fill the surfaces with a commercial paste wood filler—add stain to the filler to match the color you’re after—and then apply a film-forming topcoat such as shellac.

Aromatherapy
It has been over three weeks since I finished the chair featured on page 50, but every time I enter my shop, I can still smell sapele’s distinctive aroma. The wood’s fragrance is sometimes likened to Spanish cedar, but I find it darker and more exotic. Whatever you think, it is certainly long lasting. Although the dust seems to stick to everything, I’m tempted to wait a few more weeks before cleaning up my shop.
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